

REMARKS

Status of the Claims

In the Office Action, claims 1-18 were noted as pending in the application. Claims 1-18 stand rejected. Applicant cancels claim 13-18 and adds claims 19 and 20 and respectfully requests that examiner enter these new claims into the application.

A. Summary of Cited References

Before addressing the Examiner's rejections, a brief summary of the cited references is provided.

U.S. Patent Applicant number 20010032334 to Dapper, et. al., ("Dapper")

Dapper relates to a method and system for synchronizing the tuning of transmitters and receivers used in an orthogonal frequency division multiplexing arrangement. [0167]. A host digital terminal ("HDT") communicates with a plurality of integrated service units ("ISU") at customers' locations. Id. An ISU estimates a frequency error digitally from downstream signals and a correction is applied to the up stream data being transmitted. [0317]. Dapper describes this in contrast to determining an error correction at the HDT using carrier amplitude timing recovery block 222. Id. Recovery block 222 receives digital signals from analog to digital converters 212 as shown in FIG. 26. Thus, in either scenario, Dapper illustrates estimating an error for use in correcting mixer frequency differences between the HDT of ISU. The error is used, for example, to adjust upstream signals transmitted from the ISU based on a difference, digitally computed at the ISU, between the HDT and ISU oscillators. [0318] – [0319]. Thus, after correction, the RF mixers at both the HDT and ISU are "frequency locked." Id.

U.S. Patent Applicant number 20030215011 to Wang, et. al., ("Wang")

Wang relates to transcoding an input compressed video bitstream to an output compressed bitstream at a different rate. Section [0294] discusses that dequantized data presented to transcode block 400a will differ from the DCT coefficients emerging from dequantizing block 420. Differencing block 425 processes the difference between the dequantized data and the DCT coefficients and produces an error-image that represents the quantizing errors in the final output video bitstream. The error-image is stored into frame buffer FB2 440. The error image is then offset by $\frac{1}{2}$ the dynamic range of FB2. Section [0295] points out that this is merely one of many biasing techniques that can be used to handle numerical conversion where numbers of different types are to be comingled.

B. Objection to claims 10, 12, 15, 16, and 18

Applicant has amended the claims above to overcome Examiner's objection. Withdrawal of the objection is respectfully requested.

C. Rejection of Claims 1-4 and 7 under 35 U.S.C. § 102(e).

The current office action does not reject claims under 35 U.S. § 102(e). Applicant expresses gratitude to Examiner for recognizing the novelty of Applicant's claims and withdrawing the anticipation rejection.

D. The Claims are not Obvious over the Cited References

Applicant respectfully submits that the subject matter of the claims patentably distinguish over the cited references. Under MPEP § 2143, for an examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must not be based on Applicant's disclosure. If any of these three criteria are not met, the Examiner has not met the burden of establishing a *prima facie* case of obviousness, and the rejection should be withdrawn.

As discussed in MPEP § 2143.01V, "[I]f [a] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)." Also, in discussing In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959), MPEP § 2143.01VI points out that the court reversed a rejection of a claimed seal mechanism having resilient fingers inserted into a resilient sealing member. The patent office had rejected the claim as obvious over a reference that taught the device required rigidity for operation. The court held that the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352).

Furthermore, according to MPEP § 2145 D.2, "[i]t is improper to combine references where the references teach away from their combination. In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983)." In Grasselli, the applicant claimed a catalyst that contained both iron and an alkali metal. The Grasselli court determined that the claimed subject matter "was not suggested by the combination of a reference which taught the interchangeability of antimony and alkali metal with the same beneficial result, with a reference expressly excluding antimony from, and adding iron to, a catalyst."

"A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). In interpreting this language from Gurley, the Federal Circuit stated that "[t]he prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed" In re Fulton, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Thus, a reasonable corollary to the Federal Circuit's language in Fulton would be that if a cited reference expressly teaches an advantageous embodiment as critical to operation of the subject of the reference application, and that critical embodiment leads one of ordinary skill in the art in a path that diverges from the claimed invention, then the cited reference teaches away from the claimed invention.

Lastly, regarding rejection of dependent claim, each dependent claim includes all of the limitations of the independent claim from which it depends. If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. MPEP §2143.03, citing In re Fine, 837 F.2d 1071 (Fed. Cir. 1988). Thus, in light of the above, Applicant respectfully submits that the burden of establishing a *prima facie* case of obviousness has not been met as discussed in the following analysis.

E. Rejection of claims under 35 U.S.C. § 103(a).

Regarding the obviousness rejection, which the office action maintains beginning on page 2, Applicant addresses the rejection below. To the extent that the office action maintains the same grounds in rejecting the claims as in the previous office action, Applicant maintains the arguments made in the previous response.

In addition, Applicant has amended independent claims 1 and 8, and added independent claim 19, which recites similar subject matter as claims 1 and 8. The amended independent claims recite a communication device that uses a processor that can process digital tuning words no larger than 24 bits. As discussed in the previous response, Applicant's claimed subject matter facilitates a communication device in increasing its tuning accuracy without using a processor that processes digital tuning words larger than 24 bits. Dapper expressly discusses increasing bits in the decimators as a signal proceeds from one stage to the next, thus reducing truncation error, in paragraph [0533]. Paragraph [0533] discusses a custom chip fabricated according to particular technology by IBM for the particular purpose of "facilitate[ing] bit growth from stage-to-stage in order to prevent or reduce truncation or round-off errors." Furthermore, paragraph [0533] of Dapper discusses that I and Q signals grow to 25 bits. According to Gurley as discussed above, the references would lead one skilled in the art away from the claimed subject matter because Dapper teaches increasing the bits used to process a signal, and the claims of the present application claim increasing tuning accuracy in a 24-bit processor without increasing the number of bits. Thus, paragraph [0533], which the office action cites, teaches away from the subject matter of the currently amended, and newly presented, independent claims.

Therefore, since the office action only cites Quigly for the teaching of an offset value being an absolute value, neither of the references, alone, or in combination, teach all of the limitations of claims 1, 8, or 19. Moreover, Dapper teaches away from the claimed subject matter. Therefore, the independent claims patentably distinguish over the references. Applicant respectfully requests withdrawal of the rejection of the independent claims.

Regarding the dependent claims, they each include all of the limitations as the base claim from which they depend. Therefore, they too patentably distinguish over the references. Applicant respectfully requests withdrawal of the rejection of the independent claims.

SUMMARY

For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance and that action is earnestly solicited.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment please contact the undersigned at the mailing address, telephone, facsimile number, or e-mail address indicated below.

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